

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Previously Presented) A toner composition, comprising:

toner particles comprising:

a binder resin comprising:

a modified polyester resin; and

a second resin having a weight average molecular weight of from 2,000 to 10,000,

a colorant;

a release agent; and

a particulate material which is present in at least a surface portion of the toner particles while embedded into the surface portion,

wherein the toner particles are prepared by a method comprising dissolving or dispersing a composition, which comprises at least a modified polyester resin (A) capable of reacting with an active hydrogen and the second resin, the colorant, the release agent and a compound having an active hydrogen, in an organic solvent to prepare an oil phase liquid; dispersing the oil phase liquid in an aqueous medium comprising said particulate material while subjecting the modified polyester resin (A) to a polymerization reaction to prepare the modified polyester resin and to prepare a dispersion; removing the organic solvent of the dispersion to prepare the toner particles; washing the toner particles; and drying the toner particles,

wherein the binder resin has a glass transition temperature not lower than 35°C and lower than 55°C, and wherein the particulate material has an average particle diameter of from 0.002 to 0.2 times that of the toner particles;

Application No.: 10/670,320

Reply to the Office Action dated: April 12, 2006

wherein the particulate material comprises a particulate resin having a glass transition temperature of from 40 to 100°C;

wherein the particulate resin is crosslinked;

wherein the binder resin comprises tetrahydrofuran-insoluble components in an amount of from 2 to 30 % by weight; and

wherein the particulate resin has a weight average molecular weight of from 9,000 to 200,000, and wherein the particulate resin is included in the toner particles in an amount of from 0.5 to 5.0 % by weight based on total weight of the toner particles.

2. (Canceled)

3. (Previously Presented) The toner composition according to Claim 1, wherein the particulate material has a glass transition temperature of from 55 to 100°C.

4-7. (Canceled)

8. (Original) The toner composition according to Claim 1, wherein the second resin is an unmodified polyester resin, and wherein a ratio (i/ii) of the modified polyester resin (i) to the unmodified polyester resin (ii) is from 5/95 to 60/40.

9. (Original) The toner composition according to Claim 8, wherein the unmodified polyester resin has an acid value of from 0.5 to 40 mgKOH/g.

10. (Previously Presented) The toner composition according to Claim 1, wherein the particulate resin comprises a resin selected from the group consisting of vinyl resins, polyurethane resins, epoxy resins and polyester resins.

11. (Previously Presented) The toner composition according to Claim 1, wherein the particulate resin has a volume average particle diameter of from 50 to 500 nm.

12. (Original) The toner composition according to Claim 1, wherein the toner particles have an average circularity of from 0.975 to 0.900.

13. (Original) The toner composition according to Claim 1, wherein the toner particles have a spindle form.

14. (Original) The toner composition according to Claim 13, wherein a ratio (r_2/r_1) of a minor axis particle diameter (r_2) of the toner particles to a major axis particle diameter (r_1) of the toner particles is from 0.5 to 0.8, and a ratio (r_3/r_2) of a thickness (r_3) of the toner particles to the minor axis particle diameter (r_2) is from 0.7 to 1.0.

15. (Previously Presented) The toner composition according to Claim 1, wherein the second resin is an unmodified polyester resin, and wherein the particulate resin has units obtained from styrene and methacrylic acid and satisfying the following relationship:

$$10 \leq a \leq 51, 15 \leq b \leq 51, \text{ and } 0.4 \leq a/b \leq 2.5,$$

wherein a and b respectively represent weight ratios of styrene and methacrylic acid based on total monomers constituting the particulate resin.

Application No.: 10/670,320
Reply to the Office Action dated: April 12, 2006

16. (Previously Presented) The toner composition according to Claim 1, having a flow starting point (Tfb) of from 80 to 170°C.

17. (Original) The toner composition according to Claim 1, wherein the toner particles have a volume average particle diameter (Dv) of from 3 to 7 µm.

18. (Original) The toner composition according to Claim 17, wherein a ratio (Dv/Dn) of the volume average particle diameter (Dv) to a number average particle diameter (Dn) of the toner particles is not greater than 1.25.

19. (Original) The toner composition according to Claim 1, wherein the second resin is an unmodified polyester resin, and wherein tetrahydrofuran-soluble components of the modified polyester resin and the unmodified polyester resin have a number average molecular weight of from 2,000 to 15,000 and a molecular weight distribution such that a peak is observed in a range of from 1,000 to 30,000, and components having a molecular weight not less than 30,000 is included in an amount not less than 1 % by weight.

20. (Original) The toner composition according to Claim 19, wherein components having a molecular weight not greater than 1,000 are included in the tetrahydrofuran-soluble components of the modified polyester resin and the unmodified polyester resin in an amount of from 0.1 to 5.0 % by weight.

21. (Currently Amended) ~~The toner composition according to Claim 1,~~

A toner composition, comprising:

toner particles comprising:

a binder resin comprising:

a modified polyester resin; and

a second resin having a weight average molecular weight of from 2,000 to 10,000,

a colorant;

a release agent; and

a particulate material which is present in at least a surface portion of the toner particles while embedded into the surface portion,

wherein the toner particles are prepared by a method comprising dissolving or dispersing a composition, which comprises at least a modified polyester resin (A) capable of reacting with an active hydrogen and the second resin, the colorant, the release agent and a compound having an active hydrogen, in an organic solvent to prepare an oil phase liquid; dispersing the oil phase liquid in an aqueous medium comprising said particulate material while subjecting the modified polyester resin (A) to a polymerization reaction to prepare the modified polyester resin and to prepare a dispersion; removing the organic solvent of the dispersion to prepare the toner particles; washing the toner particles; and drying the toner particles,

wherein the binder resin has a glass transition temperature not lower than 35°C and lower than 55°C, and wherein the particulate material has an average particle diameter of from 0.002 to 0.2 times that of the toner particles;

wherein the particulate material comprises a particulate resin having a glass transition temperature of from 40 to 100°C;

wherein the particulate resin is crosslinked;

wherein the binder resin comprises tetrahydrofuran-insoluble components in an amount of from 1 to 15 % by weight based on total weight of the binder resin; and

wherein the particulate resin has a weight average molecular weight of from 9,000 to 200,000, and wherein the particulate resin is included in the toner particles in an amount of from 0.5 to 5.0 % by weight based on total weight of the toner particles.

22. (Original) The toner composition according to Claim 1, wherein the release agent is a wax.

23. (Original) The toner composition according to Claim 1, further comprising an external additive which is present at least on a surface of the toner particles.

24. (Previously Presented) A toner composition, comprising:
toner particles comprising:

a binder resin comprising:

a modified polyester resin; and

a second resin having a weight average molecular weight of from 2,000 to 10,000,

a colorant;

a release agent; and

a particulate material which is present at least a surface portion of the toner particles while embedded into the surface portion,

wherein the binder resin has a glass transition temperature not lower than 35°C and lower than 55°C, and wherein the particulate material has an average particle diameter of from 0.002 to 0.2 times that of the toner particles;

wherein the particulate material comprises a particulate resin having a glass transition temperature of from 40 to 100°C;

wherein the particulate resin is crosslinked;

wherein the binder resin comprises tetrahydrofuran-insoluble components in an amount of from 2 to 30 % by weight; and

wherein the particulate resin has a weight average molecular weight of from 9,000 to 200,000, and wherein the particulate resin is included in the toner particles in an amount of from 0.5 to 5.0 % by weight based on total weight of the toner particles.

25. (Original) A toner container containing the toner composition according to Claim 1.

26. (Previously Presented) A method for manufacturing a toner composition comprising toner particles, comprising:

dissolving or dispersing a composition, which comprises at least a modified polyester resin (A) capable of reacting with an active hydrogen, a second resin having a weight average molecular weight of from 2,000 to 10,000, a colorant, a release agent and a compound having an active hydrogen, in an organic solvent to prepare an oil phase liquid;

dispersing the oil phase liquid in an aqueous medium including a particulate material while subjecting the modified polyester resin (A) to a polymerization reaction to prepare a modified polyester resin and to prepare a dispersion;

removing at least the organic solvent in the dispersion to prepare the toner particles;

washing the toner particles; and

drying the toner particles thereby obtaining the toner composition comprising said toner particles comprising:

a binder resin comprising:

the modified polyester resin; and

the second resin having a weight average molecular weight of from 2,000 to 10,000,

the colorant;

the release agent; and

the particulate material which is present at least a surface portion of the toner particles while embedded into the surface portion,

wherein the binder resin has a glass transition temperature not lower than 35°C and lower than 55°C, and wherein the particulate material has an average particle diameter of from 0.002 to 0.2 times that of the toner particles;

wherein the particulate material comprises a particulate resin having a glass transition temperature of from 40 to 100°C;

wherein the particulate resin is crosslinked;

wherein the binder resin comprises tetrahydrofuran-insoluble components in an amount of from 2 to 30 % by weight; and

wherein the particulate resin has a weight average molecular weight of from 9,000 to 200,000, and wherein the particulate resin is included in the toner particles in an amount of from 0.5 to 5.0 % by weight based on total weight of the toner particles.

27. (Previously Presented) A developer comprising:

a toner composition according to Claim 1; and

a carrier comprising a layer on a surface thereof,

wherein the layer comprises at least one member selected from the group consisting of an acrylic resin, a silicone resin and mixtures thereof.

28. (Currently Amended) A method for fixing a toner image, comprising:

Application No.: 10/670,320

Reply to the Office Action dated: April 12, 2006

passing an image bearing material bearing a toner image thereon through a nip between a fixing belt and a pressure member while applying heat to the toner image to fix the toner image on the image bearing material, wherein the fixing belt has a U form at the nip, wherein ~~the~~ a toner is the toner according to Claim 1.

- Application No.: 10/670,320
Reply to the Office Action dated: April 12, 2006

- **BASIS FOR THE AMENDMENT**

The limitations of Claim 1 have been included in Claim 21. Claim 28 has been amended to correct a minor informality.

No new matter is believed to have been added by entry of this amendment. Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 1, 3, 8-28 will now be active in this application.